205

Begin

Reel # 506

Sheftel', L.M.

GALUNINA, Z.; SHEFTEL', I.M.

Use of tissue culture in diphtheria diagnosis; annotation.
Zhur. mikrobiol., epid. i immun. 40 no.4:54-55 Ap '63.
(MIRA 17:5)

1. Iz Gor'kovskogo instituta epidemiologii i mikrobiologii.

GALUNINA, Z.I.; SHEFTEL', L.M.

Cytotoxic action of the diphtherial toxin on a tissue culture. Report No. 1. Zhur.mikrobiol., epid.i immun. 33 no.8:126 Ag '62.
(MIRA 15:10)

1. Iz Gor'kovskogo instituta epidemiologii i mikrobiologii.
(DIPHTHERIA) (TOXINS AND ANTITOXINS)

[illegible], [illegible] [illegible]MAN, [illegible]; [illegible] [illegible]. [illegible] I.M.

Res[illegible] of the isolation of [illegible] from the blood and [illegible] of patients [illegible]. [illegible] [illegible] no.[illegible] '62. (MIRA 15:[illegible])

1. Gor'kovskiy Institut epidemiologii [illegible] mikrobiologii.

[illegible]EFEL', M., vrach.

First aid for drowning victims. Voen.znan. 31 no.7:20 Jl '56. (MIRA 10:8)

(Drowning, Restoration from)

MAKSIMENKO, Vasiliy Pavlovich. Prinimali uchastiye: KAMENSKIY, V.K.; SUROVIKIN, V.D., vrach-fiziolog; SHEFTEL', M.A., vrach; ZAONEGIN, V.N., vodolaznyy spetsialist; KUZNETSOV, I.I., vodolaznyy spetsialist; SHTORM, V.M., vodolaznyy spetsialist; IGOSHIN, M.G., red.; KARYAKINA, M.S., tekhn.red.

[Manual for divers engaged in rescue work] Posobie dlia vodolaza-spasatelia. Moskva, Izd-vo DOSAAF, 1957. 158 p. (MIRA 13:8)
(Diving, Submarine)

ROBINZON, I.A.; TYUFANOV, A.V.; SHEFTEL', M.A.; SAVINOV, A.P.; FROLOVA, M.P.; YUROVETSKAYA, A.L.

Morphological control of the safety of poliomyelitis vaccine. Vest. AMN SSSR 14 no.10:29-34 '59. (MIRA 13:6)

1. Institut po izucheniyu poliomielita AMN SSSR.
(POLIOMYELITIS)

ROBINZON, I.A.; FROLOVA, M.P.; SAVINOV, A.P.; SHEFTEL', M.A.

Histopathology of experimental infections induced by infections with enteric neurotropic viruses. Zhur.nerv.i psikh. 59 no.7:769-776 '59.
(MIRA 12:11)

1. Laboratoriya patogistologii (zav. - dotsent I.A. Robinzon) Instituta po izucheniyu poliomiyelita AMN SSSR (dir. - chlen-korrespondent AMN SSSR prof. M.P. Chumakov).
(COXSACKIE VIRUSES, infet.
exper. infect. with A7 strain (Rus))

TYUFANOV, A.V.; TSYPKIN, L.B.; RAVKINA, L.I.; SHEFTEL, M.A.

Study on residual virulence for monkeys of Sabin's attenuated poliovirus strains used for mass production of live vaccine. Acta virol. 7 no.2:116-123 Mr '63.

1. Institute of Poliomyelitis and Viral Encephalitides, U.S.S.R. Academy of Medical Sciences, Moscow.
(POLIOVIRUS VACCINE, ORAL)

SHEFTEL, M. A.

"The problems of tissue changes caused by enteroviral infections."

report presented at 4th Intl Cong, Hungarian Soc of Microbiologists, Budapest, 30 Sep-3 Oct 64.

Inst of Virology im D. I. Ivanovskiy, AMS USSR, Moscow.

SHEFTEL, M.P.

[Instantaneous application of pedicle-graft in restorative plastic surgery of hands and fingers] Primenenie ostroi stebel'chatoi plastiki v vosstanovitel'noi khirurgii verkhnei konechnosti. Khirurgia, Moskva no.3:47-54 Mr '50. (CLML 19:1)

1. Of the Central Institute of Traumatology and Orthopedics (Director -- Honored Worker in Science Prof. N.N.Priorov) of the Ministry of Public Health USSR.

MIKHEL'SON, Nikolay Mikhaylovich; SHEFTEL', M.P.

[Filatov's flap and its use in restorative surgery] Filatovskii stebel' i ego primenenie v vosstanovitel'noi khirurgii. Moskva, 1951. 77 p. (MIRA 13:8)

(SKIN GRAFTING)

SHEFTEL', M.P.

Method of formation of the stem of Filatov's flap. Stomatologiia, Moskva no.1:65 1951. (CLML 20;8)

1. Professor.

SHEFTEL', M.P., starshiy nauchnyy sotrudnik

A congenital fissure of the alveolar process and the anterior part of the hard palate replaced by a section of the upper lip. Stomatologiia 36 no.4:45-47 Jl-Ag '57. (MIRA 10:11)

1. Iz kafedry chelyustno-litsevoy khirurgii (zav. - prof. N.M. Mikhel'son) TSentral'nogo instituta usovershenstvovaniya vrachey (dir. V.P.Lebedeva) i TSentral'nogo instituta travmatologii i ortopedii (dir. - prof. N.N.Priorov)
(MOUTH--SURGERY)

SHEFTEL', M.P.

Regeneration of adipose tissue under a free skin graft. Khirurgiia Supplement:58 '57. (MIRA 11:4)

1. Iz kafedry chelyustno-litsevoy khirurgii TSentral'nogo instituta usovershenstvovaniya vrachey i iz TSentral'nogo instituta travmatologii i ortopedii.
(SKIN GRAFTING)

SHEFTEL', M.P., starshiy nauchnyy sotrudnik

Surgical removal of a congenital median fissure of the external part of the nose. Vest.oto-rin. 20 no.1:21-24 Ja-F '58. (MIRA 11:3)

1. Iz kafedry chelyustno-litsevoy khirurgii (zav.-prof. N.M. Mikhel'son) TSentral'nogo instituta usovershenstvovaniya vrachey i chelyustno-litsevogo otdeleniya (zav.-prof. F.M.Khitrov) TSentral'nogo instituta travmatologii i ortopedii, Moskva.

(NOSE, abnorm.
median fissure, plastic repair (Rus)

SHENTEL', M.I., kand.med.nauk

Flattened Filatov's graft in restorative surgery on the face. Trudy TSIU 64:60-67 '63.

Method of synthesis of the flattened T-shaped Filatov's graft with plastic formation of its pedicles. Ibid.:68-72

Application of a myoaponeurotic flap on a pedicle in facial plastic surgery on persistent paralysis of the facial nerve. Ibid.:114-119 (MIRA 17:5)

SHEFTEL', N.

Technical progress in R.S.F.S.R. ferrous metallurgy plants in 1963. Metallurg 8 no.2:1-2 F '63. (MIRA 16:2)

1. Gosplan RSFSR.

(Iron and steel plants)

SHEFTEL, N.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

12

Electromagnetic Reversing Clutch for Rolling-Mills. N. Sheftel. (Stal, 1938, No. 3, p. 54). (In Russian). In this rolling-mill drive the reduction gear drives two similar and loose gear-wheels in opposite directions on the driving-shaft of the rolling mill. Both gear-wheels carry electromagnetic coils which can attract a solid disc capable of sliding longitudinally along the driving shaft. The disc, however, is not free to turn on the shaft. The latter is therefore made to rotate in the same direction as the gear-wheel to which the disc is attracted. Reversal is effected by switching off the current in one set of coils and switching it on in the coils carried by the other gear-wheel. The device enables reversing-mill drives to be fitted with a fly-wheel, and thus considerably reduces (up to 50%) the energy consumption.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

RAVDEL', P.G., inzhener; SHEFTEL', N.I.

Steel conveyor belts. Stal' 7 no.3:265-268 '47. (MLRA 9:1)

1.Ministerstvo chernoy metallurgii.
(Conveying machinery)

SHEFTEL', N.I.

PHASE I TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 427 - I

BOOK Call No.: AF613152

Author: SHEFTEL', N. I., Kand. of Tech. Sci.
Full Title: COLD ROLLING OF STEEL
Transliterated Title: Kholodnaya prokatka stali

Publishing Data
Originating Agency: None
Publishing House: State Scientific and Technical Publishing House of Literature on Ferrous and Nonferrous Metallurgy (Metallurgizdat)
Date: 1953 No. pp.: 105 No. of copies: 5,500
Editorial Staff: None

Text Data
Coverage: The author outlines the results of experimental investigations in cold rolling of metals. Emphasis throughout is on practical technical application. Problems of reduction, dressing of various steels, shaping of rolls, wear resistance, rolling temperatures, relation between properties and quality of cold-rolled steel and conditions of rolling, productivity of rolling mills, and forces acting in the cold-rolling process are discussed. Special attention is given to rolling of stainless steel.

Kholodnaya prokatka stali AID 427 - I

The book contains the description of numerous tests on cold rolling of metals, carried out by Soviet metallurgists: Pavlov, Tselikov, Leychenko, Zhitvin, etc. See, for instance, tests on: cold rolling of low-carbon steel showing the relation between the resistance to deformation and the entrance slip thickness, pp. 7-11; nomograms based on the results obtained for the determination of pressure of metal on rolls and the magnitude of torsional moment at cold rolling of low-carbon steel, pp. 10-13; the effect of rolling speed upon the pressure of metal on rolls, pp. 13-18; elastic deformation and compression of rolls and methods of computation of the deflection of rolls, used by the Ural Institute of Metals, pp. 29-31; the relation between the rise in temperature at the surface of the roll and the increase of its diameter studied at Zaporozhstal' Metallurgical Plant, pp. 32-37; properties of various lubricants and their effect on the elongation of steel and its resistance to deformation, pp. 37-44; mechanical properties of steels with relation to the percentage of reduction, pp. 44-56, and cleaning treatment pp. 60-67; factors affecting the efficiency of rolling (rolling speed, thickness and width of entrance strip, weight of billets, number of passes, etc.), pp. 71-76. Extensive investigation of mechanical properties of stainless steel with relation to conditions of rolling was carried out by N. P. Zhetvin, pp. 89-102.

Sheftel, N.I.

Metal

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1

Production of Cold Rolled Transformer Steel. N. I. Sheftel'. (*Stal'*, 1955, (7), 635-637). ~~[In Russian].~~ The properties required of transformer steel are discussed in relation to its production, with special reference to the cold-rolling process. In cold-rolling the controlling factor together with heat treatment was found to be the total reduction in the final rolling to the required dimensions. Present production methods are discussed and suggested lines [illegible] research, including the production of metal with lower sulphur, oxygen, and nitrogen contents, decarburization and continuous heat treatment, are enumerated.—S. K.

8

SHEFTEL', Naum Izrailevich, kandidat tekhnicheskikh nauk; SLAVKIN, V.S., redaktor; GOLYATKINA, A.G., redaktor izdatel'stva; BERLOV, A.P., tekhnicheskiy redaktor

[Production of calibrated and coldrolled steel] Proizvodstvo kalibrovannoi i kholodnokatannoi stali. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1956. 250 p.
(Steel—Metallurgy) (MLRA 9:9)

133-6-26/33

AUTHOR: Sheftel', N.I. (Cand.Tech.Sc.)

TITLE: Production of cold rolled dynamo steel. (Proizvodstvo kholodnokatanoy dinamnoy stali).

PERIODICAL: "Stal'" (Steel), 1957, No.6, pp.562-563 (USSR).

ABSTRACT: The superiority of cold rolled dynamo steel over that produced by hot rolling is discussed. On the basis of data on hot and cold rolled steels produced in various works it is concluded that the use of the cold rolled dynamo steel instead of hot rolled will secure a considerable economy of electricity (in the construction of electrical equipment) and presents the possibility of increasing the power of electrical machines without increasing their weight and dimensions. Cold rolled dynamo steel is produced on a single stand and in continuous mills (using coiling) with a reduction up to 80% without intermediary annealing. Work hardening of metal has an adverse influence on its magnetic properties and therefore after stamping and cutting of parts they should be annealed at 700-800 C in order to restore their magnetic properties.

ASSOCIATION: MChM SSSR.
AVAILABLE: Library of Congress
Card 1/1

AUTHOR: Sheftel', N.I. (Cand.Tech.Sci.) 110-7-23/30

TITLE: Measures to improve the quality of cold-rolled transformer steel. (Meropriyatiya po uluchsheniyu kachestva kholodnokatanoy transformatornoy stali).

PERIODICAL: "Vestnik Elektropromyshlennosti" (Journal of the Electrical Industry), Vol.28, No.7, 1957, pp.69-72 (USSR).

ABSTRACT: Recently the output of cold rolled transformer steel has much increased. The standard requirements in respect of surface finish of cold and hot rolled steel given in Table 1 demonstrate the superior finish of cold rolled steel. Cold rolled steel which may have low specific losses at high induction is delivered against standard ГОСТ 802-54 in sheet thicknesses of 0.35 and 0.5 mm and various sizes and also as strips of 0.04-0.5 mm thick and 5-240 mm wide. The magnetic characteristics of cold and hot rolled transformer steel are shown in Table 2. In 1955-56 a number of steps were taken to improve the magnetic properties of cold rolled transformer steel and to increase the output of steel brand Э-330. The output of this steel has much increased and at Zaporozhstal' works it exceeds 90%. Scientific research institutes are working to improve the technology of production of cold rolled transformer steel

Card 1/3

Measures to improve the quality of cold-rolled transformer steel. (Cont.) 110-7-23/30

and in particular to develop procedures for manufacturing steel 0.35 mm thick with specific losses P_{10} not more than 0.50 W/kg and P_{15} not more than 1.2 W/kg. Measures are being taken to increase the production of cold rolled transformer steel by making better use of existing facilities and also by starting up a new works for the manufacture of electrical steels. The smaller the content of carbon, sulphur and gases in transformer steel the better its magnetic properties. Therefore, the introduction at the Dneprospetsstal' works of vacuum treatment of liquid steel in the ladle as proposed by A.N.Samarin and L.M.Novik is very important. Vacuum treatment made it possible to reduce the carbon content to 0.02% in the ingot and the sulphur content to 0.005%. Vacuum treatment reduced the hydrogen content per 100 grams of metal from 5.46 to 4.63 cm^3. Data from the Zaporozhstal' works on the output of different grades of steel according to silicon content is given in Table 3. The important effect of heat treatment on the magnetic properties of cold rolled steel is discussed at some length, and various measures are described for heat treating the steel.

Card 2/3

Measures to improve the quality of cold-rolled transformer steel. (Cont.) 110-7-23/30

Mention is made of the work of V.V.Druzhinin, who studied the anisoptropy of the magnetic properties of cold rolled steel. It is considered necessary that the Scientific Research Institute of the Ministry of the Electrotechnical Industry together with the transformer factories should work out the best technology for using cold rolled transformer steel so as to make the best use of its magnetic properties. Particular importance attaches to using the steel in rolled strips.

There are 3 tables.

ASSOCIATION: Ministry of Ferrous-metallurgy of the USSR.
(Ministerstvo Chernoy Metallurgii SSSR).

AVAILABLE:

Card 3/3

110-3-8/[illegible]

AUTHOR: Sheftel', N.I., Candidate of Technical Sciences.

TITLE: Cold-rolled Dynamo Steel (Kholodnokatanaya dinamnaya stal')

PERIODICAL: Vestnik Elektropromyshlennosti, 1958, Vol.29, No.3, pp. 42 - 47 (USSR).

ABSTRACT: The principal advantages of cold-rolled steel are described. The magnetic properties of hot- and cold-rolled electrical steel sheets, 0.5 mm thick with silicon content of 1.1 - 1.7% and about 2.5% are given in Tables 1 and 2, respectively. Steel with a silicon content of about 3% or with 2.5% of silicon and 0.5% of aluminium is now coming into use in the manufacture of electrical machines. The magnetic properties of these cold-rolled steels are given. Thus, with 2.5% silicon and 0.5% aluminium, and depending on the final heat treatment, the loss is 3 W/kg at 15 kilogauss, according to data of the Novosibirsk Works.

The magnetic properties of the steel are impaired by impurities. At Magnitogorsk, cold-rolled electrical steel is melted in furnaces of 100 tons and has a carbon content up to 0.05%. Heat-treatment at a temperature of 1 150 °C ensures a large grain size which improves the magnetic characteristics. Two kinds of cold-rolled steel are required. The first should have losses comparable with those of hot-rolled steel but with better

Card1/2

Cold-rolled Dynamo Steel

110-3-9/22

induction properties, and the second should have both lower losses and better induction properties. The design of electrical machines could be considerably improved by using steel 0.35 - 0.4 mm thick in place of 0.5 mm; equipment exists for rolling such steel. Heat-treatment is most important with cold-rolled steel. There are 3 tables.

ASSOCIATION: Gosplan RSFSR

SUBMITTED: August 3, 1957.

AVAILABLE: Library of Congress

Card 2/2

1. Steel-Magnetic properties 2. Steel-Applications

SHEFTEL', Naum Izrailevich, kand.tekhn.nauk; ISLANKINA, T.F., red.;
NAZAROVA, A.S., tekhn.red.

[Recent developments in ferrous metallurgical factories] Novoe na zavodakh chernoi metallurgii. Moskva, Izd-vo "Znanie," 1961. 39 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser.4, Tekhnika, no.9)

(MIRA 14:6)

(Iron industry) (Steel industry)

SHEFTEL', N.I., kand.tekhn.nauk

Steel feed belts for conveyers. Biul. tekh.-ekon. inform. no. 4:41-42 '61. (MIRA 14:5)

(Conveying machinery)

S/130/61/000/005/001/005
A006/A101

AUTHOR: Sheftel', N. I.

TITLE: New techniques at RSFSR plants of ferrous metallurgy in 1961

PERIODICAL: Metallurg, no. 5, 1961, 1 - 2

TEXT: In order to raise technical and economical industrial indices of the RSFSR, new techniques will be employed in the design of new machines, the redesign of existing units and advanced technological processes will be introduced into plants of ferrous metallurgy in 1961. Blast furnaces of the highest capacity in Europe, will become operative at a number of plants, and existing furnaces will be redesigned to higher capacities. Improved performance of the furnaces will be achieved by the use of fluxed sinter of higher basicity excluding raw limestone from the charge, and by higher gas pressure and blast temperature. By eliminating almost completely raw limestone from the charge, the highest coefficient of utilization of useful volume in the world, namely 0.577, was attained in 1960 at the Cherepovets plant at 1.8 atm gas pressure and 586 kg coke consumption per ton of cast iron. The blast furnace process will be intensified by using natural gas. In the steelmelting practice super-capacity open-hearth

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S/130/61/000/005/001/005
A006/A101

New techniques at RSFSR plants of ferrous ...

and high-capacity electric steel melting furnaces will come into use. At the "Serp i molot" plant 92% of the total steel output will be produced with the use of oxygen, 90% at the Chelyabinsk plant, 65% at "Elektrostal" and 56% at the Nizhne-Tagil'skiy Combine. Natural gas fuel raises the efficiency of open hearth furnaces and reduces fuel consumption, therefore 50 open-hearth furnaces in the RSFSR are now operating on natural gas. The efficiency of steelmelting processes was considerably raised by the comprehensive automation of the thermal process (from 11.7 t/m^3 to 13.3 t/m^3 on a 370-ton open-hearth furnace at the Nizhne-Tagil'skiy Metallurgical Combine). Metal quality is improved by processing with synthetic slags. Vacuum treatment in the ladle reduces gas saturation of the metal and the amount of non-metalic impurities. This treatment improves the magnetic properties of transformer steels and assures higher purity of ball-bearing steels and surfaces of rolled structural steels. Therefore, according to the new techniques, at least 50,000 tons of steel will be vacuum treated during teeming. Electric treatment of ingot feed-heads is intended for the production of high-alloy steels. High-purity steel with improved physical and mechanical properties will be obtained by vacuum melting, remelting in electric arc vacuum furnaces with consumable electrodes, and electroslag remelting. The latter method assures high quality of the metal and is recommended for ball-bearing, stainless and structural

Card 2/3

S/196/61/000/011/005/042
E194/E155

AUTHORS: Sheftel', N.I., Dubrov, N.F., Mironov, L.V., and
Kolov, M.I.

TITLE: Coiled lightly-textured electrical steel of good magnetic properties

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.11, 1961, 2, abstract 11B 6. (Vestn. elektroprom-sti, no.6, 1961, 69-73)

TEXT: Cold-rolled lightly-textured electrical steel has a number of advantages over hot-rolled. It can be produced not only in sheets but in coils, which ensures high uniformity of properties and allows the manufacturing processes to be mechanised and automated both in the actual production of the steel and in its application. The object of the work was to improve the properties of the coiled material. Particular attention was paid to reducing the specific losses whilst maintaining the required magnetic induction and plasticity. The specific losses may be reduced by increasing the content of Si and reducing that of C by reducing the sheet thickness and by using cold-rolling and

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Coiled lightly-textured electrical ... S/196/61/000/011/005/042
E194/E155

heat-treatment conditions that promote grain growth. High-temperature annealing was specially studied because of possible reduction in grain size of sheet steel with an Si content of 2% during the α—γ phase conversion at a temperature of 950-1000 °C. Investigations were made on cold-rolled steel strip of 0.5 and 0.35 mm thickness containing 0.05-0.01% C. Part of the strip was decarburised by annealing in a gas-hood furnace. After rolling with various degrees of reduction the strips were annealed in transfer furnaces and batchwise in hood-type furnaces with hydrogen atmosphere and in vacuum. In both cases the highest grade of steel (Э 3100 (E 3100)) could be obtained only with a C content of less than 0.02%. In the transfer furnace the best magnetic properties were obtained by annealing below the phase-conversion temperature. With annealing in hood-type furnaces the specific losses are lower than with transfer furnaces; the best result is obtained by annealing at 1150 °C. The lowest losses are obtained with a reduction of 5-8% in the second rolling after intermediate annealing (this is the critical reduction for electrical sheet steel). By reducing the sheet thickness from 0.5 to 0.35 mm the

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Coiled lightly-textured electrical ... S/196/61/000/011/005/042
E194/E155

specific losses are reduced, particularly when the Si content is increased to 2.2-2.3%.
2 literature references.

[Abstractor's note: Complete translation.]

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Card 3/3

S/130/62/000/003/001/003
A006/A101

AUTHOR: Sheftel', N. I., Candidate of Technical Sciences

TITLE: New techniques at metallurgical plants in the RSFSR during 1962

PERIODICAL: Metallurg, no. 3, 1962, 1-3

TEXT: It is planned to raise the metallurgical production in the RSFSR during 1962 in comparison to 1961 by 13.4% for cast iron melting; 7.3% for steel casting and 7.3% for rolled metal. These figures will be achieved by the introduction of new techniques. Increased cast iron production will be assured by superhigh capacity furnaces, automatic continuous charge supply and the use of various new devices, such as a machine with a rotary hammer drill for opening the tap hole; a portable electric-driven slag stopper, and radioactive level meters. Coke consumption will be reduced by the use of natural gas. In the steelmelting production 900-ton furnaces will become operative, and riveted teeming ladles will be replaced by lighter welded ladles. Improvements and higher efficiency will be assured by the use of high-calory fuel, such as natural gas, remote control of mechanisms, the use of oxygen-converter processes and new vacuum electric steelmelting furnaces, processing of liquid steel with

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S/130/62/000/003/001/003
A006/A101

synthetic slags, and the wide use of continuous casting. In the rolling practice flame-scarfing of blanks, radioactive measuring of the metal thickness during rolling, and ultrasonic quality control are some of the [illegible] help to raise efficiency in this field. The information includes some general data on the steel types which will be mainly produced, such as cold-rolled, thin and super-thin stainless steels, and precision alloys.

ASSOCIATION: Gosplan RSFSR

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Card 2/2

SHEFTEL', N.I., kand.tekhn.nauk

New equipment in metallurgical plants of the R.S.F.S.R. in 1962.
Metallurg 7 no.3:1-3 Mr '62. (MIRA 15:2)

1. Gosplan RSFSR.
(Metallurgical plants--Equipment and supplies)

SHEFTEL', Naum Izrailevich, kand. tekhn. nauk; BERLIN, S.G., red.;
YELAGIN, A.S., tekhn. red.

[Directions in technical progress in metallurgy] Puti tekhnicheskogo progressa v metallurgii. Moskva, Izd-vo "Sovetskaia Rossiia," 1963. 69 p. (MIRA 16:4)

1. Glavnyy spetsialist otdela chernoy metallurgii Gosudarstvennogo planovogo komiteta Soveta Ministrov RSFSR(for Sheftel').

(Metallurgy)

SHEFTEL', N.I.

Technical progress in the ferrous metallurgy of the R.S.F.S.R. during 1964-1965. Metallurg 9 no.2:1-2 F '64. (MIRA 17:3)

1. Gosplan RSFSR.

L 36300-65 EPA(s)-2/EWT(m)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(b)/EWA(c)
Pf-4 JD/HM/HW

UR/0130/65/000/004/0001/0002

ACCESSION NR: AP5009779

AUTHOR: Sheftel', N. I. (Candidate of technical sciences)

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TITLE: Qualitative progress in ferrous metallurgy in the RSFSR

B

SOURCE: Metallurg, no. 4, 1965, 1-2

TOPIC TAGS: explosive welding, explosive cladding, clad metal, clad sheet, clad plate

ABSTRACT: The 1965 plan for research and development in ferrous metallurgy in the RSFSR calls for a continuation of the effort to increase the volume of production and to improve the quality of steel plates and sheets clad with nonferrous metals or stainless steels. The proposed production methods include pack rolling and explosive cladding. The latter method appears to be especially effective in cladding steel plates without subsequent rolling or in cladding with metals which cannot be bonded to steel by conventional cladding methods. The Kuznetsk Metallurgical Combine and the Krasnyy Oktyabr' Plant have produced the first production-size lots of explosion-clad sheets and plates. The sheets and plates were shipped to machine building plants and will be used in chemical equipment. [DV]

ASSOCIATION: Gosplan RSFSR

Card 1/2

L 36300-65

ACCESSION NR: AP5009779

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SUBMITTED: 00

ENCL: 00

SUB CODE: MM, IE

NO REF SOV: 000

OTHER: 000

ATD PRESS: 3220

Card 2/2 10

L 07836-67 EWT(m)/EWP(t)/ETI IJP(c) JD
ACC NR: AP6024673 (A) SOURCE CODE: UR/0070/66/011/004/0673/0680
41

AUTHOR: Magomedov, Kh. A.; Yarmukhamedov, Yu. N.; Sheftal', N. I.
41
B

ORG: Institute of Crystallography AN SSSR (Institut kristallografii AN SSSR)

TITLE: Influence of doping on the growth rate and morphology of epitaxial gallium arsenide films
75 27

SOURCE: 17 Kristallografiya, v. 11, no. 4, 1966, 673-680

TOPIC TAGS: gallium arsenide, semiconducting film, epitaxial growing, semiconductor impurity, stoichiometry, twinning

ABSTRACT: The authors investigate the influence of Zn and Cd donors and Se and Te acceptors on the growth rate and structure of epitaxial films grown from the gas phase with the aid of a chemical reaction in an open system. The apparatus and the growth procedure were described earlier (in: Rost kristallov [Growth of Crystals] v. 6, Nauka, 1965, p. 388). The substrates used were gallium arsenide plates with various orientations and various types of conductivity. The results confirm earlier conclusions drawn by the authors (Kristall und Technik v. 1, no. 2, 1966) regarding the effect of stoichiometry of the components of the compound on the sub-

UDC: 548.0:539.23

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L 07836-67
ACC NR: AP6024673

strate surface. They also show that the growth kinetics can be explained by assuming the presence of two chemical reactions during the formation of the film, which have equal probability at higher temperatures (500 -- 800°). This explains, in particular, the disappearance of excess arsenic when zinc and cadmium are introduced in the gas phase, and the resultant absence of twinning. The results also show that introduction of impurities contributes to a balance in the stoichiometry and thereby decreases the number of growth defects. Numerous details concerning the influence of doping on the growth rate in different directions and concerning the internal structure of the layers are reported. The authors thank V. G. Lyuttsau for an x-ray study of the crystals, O. S. Gordon for help with the experimental work, and Ye. I. Givargizov for critical remarks. Orig. art. has: 7 figures and 2 formulas.

SUB CODE: 20/ SUBM DATE: 28Jan66/ ORIG REF: 003/ OTH REF: 004

Card 2/2 bc

L 12710-63 BDS S/0020/63/150/001/0085/0088 57 49

ACCESSION NR: AP3000298

AUTHOR: Givargizov, Ye. I.; Sheftal', N. N.

TITLE: Decoration of growing crystal surface

SOURCE: AN SSSR. Doklady, v. 150, no. 1, 1963, 85-88 18

TOPIC TAGS: germanium layers, crystal surface, crystal growth, monocrystalline structure

ABSTRACT: The authors studied the process of the mechanism of formation of germanium layers from the gaseous phase with the participation of a chemical reaction of decomposition of GeCl sub 4 in a hydrogen current and they discovered the possibility of decorating a "fresh" crystal surface. With a sharp decrease of the concentration of decomposable compound in the initial gaseous phase, the growing surface is randomly covered with germanium particles which are discernible in an optical microscope in the form of dots and dashes. Special tests showed that the decorating particles have a monocrystalline structure of the same orientation as the base layer. The authors call such decorating "autodecorating." The relative susceptibility to decoration of the growth shapes, which were different as to size, was studied. Tests indicated that grains of the coarser shapes are covered more intensively by striations than the finer ones. The singularity of this method of

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ACCESSION NR: AP3000298

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decoration consists of uninterrupted transition from growing to decorating. This makes it possible to develop a precise stage of the growing surface at any given moment, which is important for studying the mechanism of crystal formation. "In conclusion, the authors express their appreciation to A. N. Stepanova, L. N. Yefremova, A. M. Kevorkov and Yu. N. Yarmukhamedov for their help in experimental work." Orig. art. has: 3 fig.

ASSOCIATION: Institut kristallografii Akademii nauk SSSR (Institute of Crystallography, Academy of Sciences SSSR)

SUBMITTED: 13Nov62 DATE ACQ: 10Jun63 ENCL: 00

SUB CODE: PH NO REF SOV: 004 OTHER: 006

Card 2/2

SHEFTEL', R.M.; KHMEL'NITSKAYA, I.L.

Aging of various sulfur dyes. Tekst. prom. 19 no.6:46-48 Je '59. (MIRA 12:9)
(Dyes and dyeing--Chemistry)

YEMEL'YANOV, A.G.; SHEFTEL', R.M.

New lightfast direct dyes. Tekst.prom. 22 no.12:60-63 D '62.
(MIRA 16:1)

1. Sotrudniki Nauchno-issledovatel'skogo instituta organicheskikh poluproduktov i krasiteley (NIOPiK).
(Dyes and dyeing) (Textile fabrics)

YEMEL'YANOV, Aleksandr Grigor'yevich; Prinimali uchastiye: GRYZLOVA, Z.A.; SHEFTEL', R.M.; ROMANOV, N.M., retsenzent; VERBITSKAYA, Ye.M., red.; VINOGRADOVA, G.A., tekhn. red.

[Direct dyes and their use in the textile industry] Priamye krasiteli i ikh primenenie v tekstil'noi promyshlennosti. Moskva, Rostekhizdat, 1963. 229 p. (MIRA 16:7)

(Dyes and dyeing)

(Color in the textile industries)

YEMEL'YANOV, A.G., nauchnyy sotrudnik, kand.khim.nauk; SHEPTEL', R.M., inzh., nauchnyy sotrudnik

Fastness of direct dyes at high-temperature dyeing under pressure. Tekst.prom. 25 no.2:67-69 F '65. (MIRA 18:4)

1. Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley.

L 42395-65 EWG(j)/EWT(l)/EWT(m)/EPF(c)/EPR/EPA(w)-2/EEC(t)/T/EWP(t)/EWP(b)/
EWA(m)-2/EWA(h)/EWA(c) Pi-4/Pr-4/Ps-4/Peb/Pz-6 IJP(c) AT/JD

ACCESSION NR: AP5008464 S/0070/65/010/002/0205/0208

59
58
B

AUTHOR: Sheftal', R. N.; Tatarinova, L. I.

TITLE: Electron diffraction study of amorphous In_2O_3 27

SOURCE: Kristallografiya, v. 10, no. 2, 1965, 205-208

TOPIC TAGS: indium 27 compound, electron diffraction 21, semiconductor research, thin film 16

ABSTRACT: Crystalline In_2O_3 has been previously studied and was found to have a cubic structure 4 with a lattice parameter of $a = 10.12$ Å. The present article is devoted to the structure of the amorphous form of this semiconductor compound, which has not been studied previously. Since the structure of this compound is isomorphic with the structure of Mn_2O_3, the same parameters are used for the atoms as for Mn and O. The specimens were made in the form of thin films on glass. It was found that the specimens consist of a mixture of two phases--amorphous and crystalline. The empirical intensity curve was studied by the integral analysis method. The radial distribution curve showed interatomic distances of $r_1 = 2.05$ Å and $r_2 = 3.5$ Å. Coordination numbers of 11.27 and 7.5 in the first coordination sphere give grounds

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ACCESSION NR: AP5008464

for assuming that the arrangement of the atoms in the amorphous phase approaches maximum packing density. It is found that the short-range order of the amorphous phase differs from that in the crystalline phase. Orig. art. has: 2 figures, 1 formula.

ASSOCIATION: Institut kristallografii AN SSSR (Institute of Crystallography, AN SSSR)

SUBMITTED: 08Jul64 ENCL: 00 SUB CODE: SS, NP

NO REF SOV: 005 OTHER: 002

Card 2/2

[illegible], D. I.

"Modification of Mandibular Anesthesia According to Veyshren," Stomatologiya, No. 2, 1949. Cand. Med. Sci.

GUTNER, YA.I., dots.; SHEFTEL', S.I., kand. med. nauk.

Osteomyelitis of the border of the mandible and its peculiarities.
Stomatologiia 38 no.1:46-49 Ja-F '59. (MIRA 12:3)
(OSTEOMYELITIS) (JAWS--DISEASES)

L 9705-66 EWT(1)/EWA(h)

ACC NR: AP5026502 SOURCE CODE: UR/0286/65/000/019/0032/0032

AUTHORS: Sheftel', V. M.; Ovchinnikov, B. P.

23

B

ORG: none

TITLE: Analog device for automatic control and regulation of electrostatic filter voltage. Class 21, No. 175105 [announced by Central Scientific Research Institute of Comprehensive Automation and Voskresenskiy Chemical Combine im. Kuybyshev (Tsentral'nyy nauchno-issledovatel'skiy institut kompleksnoy avtomatizatsii i Voskresenskiy khimicheskiy kombinat)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 19, 1965, 32

TOPIC TAGS: electrostatic precipitation, voltage regulator 25

ABSTRACT: This Author Certificate presents an analog device for automatic control and regulation of electrostatic filter (EF) voltage. To increase the effectiveness of dust precipitation and the stability reserve of the regulating system, to allow continuous control of the critical EF voltage, and to eliminate the necessity for determining this voltage in the occurrence of arc breakdown, a regulator

Card1/2

UDC: 621.3.078.3:621.319.5

L 9705-66
ACC NR: AP5026502

accomplishing the proportional-integral-differential (PID) law of regulation is connected in the EF voltage regulating circuit. An automatic EF mode control circuit and a digital-analog converter are also included in the regulating circuit. The control circuit contains a device in the form of a ferrite toroid for sampling the spark breakdown pulses. The lead of the EF power voltage circuit is threaded through the toroid. The converter is connected to this device and converts the sequence of nonuniform pulses into a voltage proportional to the average frequency of the spark breakdowns.

SUB CODE: 09/ SUBM DATE: 24Aug64

Card 2/2

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

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621.327.43 : 628.9.033 = 82

Reflectors and shades for fluorescent lamps. Ermolinsky, N., and Sheftel, E. Elektrichéstvo (No.8) 21-5 (Aug., 1945) In Russian. - Fluorescent lamps are compared with incandescent filament lamps. Methods of calculation are presented for diffusers and reflectors. Examples of luminescent lamps are described, as prepared in the Lighting Installations Laboratory of the Power Institute. Fields of application are indicated.

E. R. A.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

064

T

Fluorescent lamps in the textile industry. ERMOLINSKII, N. N., AND SHEFTEL, E. B. *Elektrichestvo* (No. 8) 16-18 (1946) *In Russian.*

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

[illegible]

[illegible]

[illegible]

[illegible], Ye. V.

"Experiments in the Use of Fluorescent Lamps in Illuminating Units," Iz. Ak. Nauk SSSR, Ser. Fiz., 13, No. 2, 1949. Mor., All-Union Electrical Engineering Inst. im. V. I. Lenin, -c1949-.

ZIL'BER, D.A., prof.; ASHKENAZI, G.I., inzh.; SHEFTEL', Ye. B., kand. tekhn. nauk

Lighting problems of schools. Svetotekhnika 4 no. 8:24-25 Ag '58.
(MIRA 11:7)

(School houses--Lighting)

AYZENBERG, Yu.B., inzh.; SHEFTEL', Ye.B., kand. tekhn. nauk.

Brightness limitation of classroom illuminants. Svetotekhnika 4 no.9:1-4 S '58. (MIRA 11:8)

1. Vsesoyuznyy svetotekhnicheskiy institut.
(School houses—Lighting)

SHEFTEL', Ye.B., kand.tekhn.nauk; AYZENBERG, Yu.B., inzh.

Fluorescent lighting of classrooms. Svetotekhnika 5 no.7:1-8
Jl '59. (MIRA 12:9)

1. Vsesoyuznyy svetotekhnicheskiy institut.
(Schoolhouses--Lighting) (Fluorescent lighting)

SHEFTEL', Ye.B., kand. tekhn. nauk; KAZAKOVA, G.L., inzh.

Experimental luminaires in classrooms. Svetotekhnika 5 no.8:13-18 Ag '59. (MIRA 13:2)

1. Vsesoyuznyy svetotekhnicheskiy institut.
(Schools--Lighting)

GORBACHEV, N.V., kand.tekhn.nauk; GOREV, Z.M., kand.tekhn.nauk; YERMOLINSKIY, N.N., inzh.; FOL'B, R.L., inzh.; KHAZANOV, V.S., kand.tekhn.nauk; SHEFTEL', Ye.B., kand.tekhn.nauk; SHKLOVER, D.A., kand.tekhn.nauk; YUROV, S.G., kand.tekhn.nauk

Principal works of professor S.O.Maizel' in the field of lighting engineering. Svetotekhnika 6 no.7:1-9 Jl '60. (MIRA 13:7)

1. Vsesoyuznyy svetotekhnicheskiy institut.
(Electric lighting) (Maizel', Sercei Osipovich, d. 1955)

SHEFTEL', Ye.B., kand.tekhn.nauk

Evaluating the quality of lighting. Svetotekhnika 7 no.6:12-17 Je '61. (MIRA 14:6)

1. Vsesoyuznyy svetotekhnicheskiy institut.
(Schools—Lighting) (Fluorescent lighting)

BELOVA, L.T., kand.tekhn.nauk; GORBACHEV, N.V., kand.tekhn.nauk;
IVANOVA, N.S., kand.tekhn.nauk; KROL', TS.I., kand.tekhn.nauk;
OSTROVSKIY, M.A., kand.tekhn.nauk; SHEFTEL', Ye.B., kand.tekhn.nauk;
TSAR'KOV, V.M., inzh.

Proposed new version of "Norms on electric lighting." (MIRA 14:7)
Svetotekhnika 7 no.8:14-22 Ag '61.

1. Vsesoyuznyy svetotekhnicheskiy institut.
(Electric lighting--Standards)

GORBACHEV, N.V., kand.tekhn.nauk; GOREV, Z.M., kand.tekhn.nauk; KHAZANOV, V.S., kand.tekhn.nauk; SHEFTEL', Ye.B., kand.tekhn.nauk; SHKLOVER, D.A., kand.tekhn.nauk; YUROV, S.G., kand.tekhn.nauk; YERMOLINSKIY, N.N., inzh.; FOL'B, R.L., inzh.

Letter received by the editor of "Svetotekhnika." Svetotekhnika 8 no.1:30 Ja '62. (MIRA 15:1)
(Sight) (Electric lighting)

SHEFTEL', Ye. B., kand. tekhn. nauk

Electric lighting in classrooms with decreased ceiling height.
Svetotekhnika 8 no.9:28 S '62. (MIRA 15:10)

(Schools--Lighting) (Electric lighting)

AYZENBERG, Yu.B.; GORBACHEV, N.V.; GOREV, Z.M.; DEMCHEV, V.I.;
YEFIMKINA, V.F.; IVANOVA, N.S.; KOMISSAROV, V.D.; MARKIZOVA, G.B.;
MESHKOV, V.V.; OSTROVSKIY, M.A.; RATNER, Ye.S.; SHEFTEL', Ye.B.;
YUROV, S.G.

Nikolai Nikolaevich Ermolinskii; obituary. Svetotekhnika 8
no.12:28 D '62. (MIRA 16:1)
(Ermolinskii, Nikolai Nikolaevich, 1894-1962)

SHEFTEL', Ye.B., kand. tekhn. nauk

Electric lighting of hospital beds. Svetotekhnika 9 no.9: 1-8 S '63. (MIRA 16:10)

1. Vsesoyuznyy svetotekhnicheskiy institut.

AUTHOR: Sheftel , Z.G. SOV/20-125-2-12/64

TITLE: On the Point Deviating Least (in the Sense of P.L.Chebyshev) From the Given Finite System of Planes and Points (O tochke, naimeneye uklonyayushcheysya (v smysle P.L.Chebysheva) ot dannoy konechnoy sistemy ploskostey i tochek)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 2, pp 289-292 (USSR)

ABSTRACT: Given a finite system of planes and weighted points in the n-dimensional space. The author defines the notion of the deviation (weighted) of a point from this system. Then the minimum of this deviation is sought. The point for which this minimum is reached is denoted as the Chebyshev point of the system. An algorithm of Zukhovits'kiy /Ref 2,3/ is generalized in order to determine this point for the given system.
There are 4 Soviet references.

ASSOCIATION: Drogobychskiy pedagogicheskiy institut (Drogobych Pedagogical Institute)

PRESENTED: December 13, 1958, by N.N.Bogolyubov, Academician

SUBMITTED: November 18, 1958

Card 1/1

S/020/62/146/006/004/016
B172/B186

AUTHORS: Roytberg, Ya. A., Sheftel', Z. G.

TITLE: On equations of the elliptical type with non-continuous coefficient

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 146, no. 6, 1962, 1275-1278

TEXT: Results which hold also for equations of higher order (uniqueness and existence of generalized solutions of the boundary value problems formulated below) are given by the author for an equation of second order. These results take the form $\mathcal{L}u = f$

$$\mathcal{L}u = \sum_{j,k=1}^{n} D_j(b_{jk}(x)D_k u) + \sum_{j=1}^{m} p_j(x)D_j u + b(x)u \quad \left(D_j = \frac{\partial}{\partial x_j};\ b_{jk} = b_{kj}\right).$$

The operator $\mathcal{L}$ is considered on determined Sobolev functional spaces. The complex-valued coefficients b_{jk}, P_j, b are defined in a domain G of the n-dimensional space. The boundary Γ of G is piecewise smooth. G is decomposed into two domains G_1 and G_2 by a (n-1)-dimensional continuously

Card 1/3

differentiable area, which is spherically homomorphic and has no common points with Γ, so that the coefficients of $\mathcal{L}$ are elements from $C^0(G_i)$ and $C^1(G_i)$ respectively, if considered as functions in G_i $(i = 1,2)$. The boundary conditions take the form

$$m\frac{\partial u}{\partial \mu} + Tu + Qu\Big|_{\Gamma} = 0$$

$$a_1\frac{\partial u}{\partial \mu_1}\Big|_{\gamma} = a_2\frac{\partial u}{\partial \mu_2}\Big|_{\gamma}; \quad [u]_{\gamma} = 0$$

Here T designates a linear combination of the tangential derivative with real coefficient from $C^1(\Gamma)$; Q a limited linear operator in $L_2(\Gamma)$, m a constant being equal to 0 for $T = 0$, $Q = 1$, and otherwise being equal to 1; a_i $(i = 1,2)$ a positive function from $C^2(G_i)$; $\frac{\partial}{\partial \mu_i} = \sum b^i_{jk}\nu^i_k D_j u$. ($\nu^i_k$ are the components of the normal to the surface γ, pointing away from G_i), $[u]_{\gamma} = u|_{\gamma-0} - u|_{\gamma+0}$. The question of smoothness of the generalized solutions is treated in a manner similar to that described in a study by

On equations of the elliptical... S/020/62/146/006/004/016
B172/B186

Nirenberg (Comm. Pure and Appl. Math., 8, no. 4 (1955)). The results obtained hold also for decompositions into more than two domains G_i. Further, the corresponding eigenvalue problem is treated.

ASSOCIATION: Stanislavskiy pedagogicheskiy institut (Stanislav Pedagogical Institute). Drogobychskiy pedagogicheskiy institut (Drogobych Pedagogical Institute)

PRESENTED: May 21, 1962, by S. L. Sobolev, Academician

SUBMITTED: May 4, 1962

Card 3/3

ROYTBERG, Ya.A.; SHEFTEL', Z.G.

Elliptic equations with discontinuous coefficients. Dokl. AN SSSR 146 no.6:1275-1278 O '62. (MIRA 15:10)

1. Stanislavskiy pedagogicheskiy institut i Drogobychskiy pedagogicheskiy institut. Predstavleno akademikom S.L. Sobolevym. (Differential equations)

S/020/63/148/005/007/029
B112/B186

AUTHORS: Roytberg, Ya. A., Sheftel', Z. G.

TITLE: General boundary-value problems for elliptic equations with discontinuous coefficients

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 5, 1963, 1034-1037

TEXT: General boundary-value problems for any-order elliptic differential equations with discontinuous coefficients are shown to be solvable in the generalized as well as in the classical sense. The boundary and transition conditions are formulated by means of general differential operators. The investigation is based on a series of inequalities derived by the authors in their paper DAN, 148, no. 3 (1963). Once more the well-known functional method is applied.

ASSOCIATION: Stanislavskiy gosudarstvennyy pedagogicheskiy institut (Stanislav State Pedagogical Institute);
Drogobychskiy gosudarstvennyy pedagogicheskiy institut im. Iv. Ya. Franko (Drogobych State Pedagogical Institute imeni Iv. Ya. Franko)

Card 1/2

General boundary-value problems for ...

S/020/63/148/005/007/029
B112/B186

PRESENTED: July 20, 1962, by S. L. Sobolev, Academician

SUBMITTED: July 20, 1962

Card 2/2

S/020/63/149/001/004/023
B112/B186

AUTHOR: Sheftel', Z. G.

TITLE: Estimates in L_p of solutions to elliptic equations containing discontinuous coefficients and satisfying general boundary conditions and conjugation conditions

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 149, no.1, 1963, 48 - 51

TEXT: The following two theorems are derived: (1) if $u \in W_p^{l_1}$ is a solution of the boundary-value problem

$$Au = f \text{ в } G \setminus \gamma;$$
$$[B_k u] = B_k^1 u_1 - B_k^2 u_2|_\gamma = \varphi_k, \quad k = 1, \ldots, 2m; \qquad (3),$$
$$B_j^3 u|_\Gamma = \psi_j, \quad j = 1, \ldots, m,$$

$$\text{где } f \in W_p^{l-2m}, \ \varphi_k \in W_p^{l-m_k-1/p}(\gamma), \ \psi_j \in W_p^{l-m_j^3-1/p}(\Gamma);$$

and if the operator A is elliptic and covered by the operators

$$B_k^r = \sum_{|\mu| \leqslant m_k^r} b_{k\mu}^r(x) D^\mu \qquad (2),$$

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Estimates in L_p of solutions ...

S/020/63/149/001/004/023
B112/B186

$$(r = 1, 2, 3;\ k = 1, \ldots, l_r;\ l_1 = l_2 = 2m,\ l_3 = m;\ m_k^1 = m_k^2 = m_k),$$

then there will be such a constant K > 0 that

$$\|u\|_l \leqslant K\left(\|f\|_{l-2m} + \sum_{k=1}^{2m} \|\varphi_k\|_{l-m_k-1/p} + \sum_{j=1}^{m} \|\psi_j\|_{l-m_j^3-1/p} + \|u\|_0\right). \qquad (4).$$

(2) The function

$$u(x, y) = \sum_{k=1}^{2m} \int K_k(x - x', y)\, \varphi_k(x')\, dx' = \sum_{k=1}^{2m} K_k * \varphi_k \qquad (10)$$

is a solution to the problem of conjugation

$Au = 0$, $\left[B_k u\right]_{y=0} = B_k^1 u(x,+0) - B_k^2 u(x,-0) = \varphi_k$, $\varphi_k(x) \in C^{\infty}(E_{n-1})$ $(k = 1, \ldots, 2m)$.

ASSOCIATION: Drogobychskiy pedagogicheskiy institut (Drogobych Pedagogical Institute)

Card 2/3

PRESENTED: September 26, 1962, by S. L. Sobolev, Academician

SUBMITTED: September 21, 1962

ROYTBERG, Ya.A.; SHEFTEL', Z.G.

Energy inequalities for elliptic operators with discontinuous coefficients, for general boundary conditions and conditions of conjugation. Dokl. AN SSSR 148 no.3:531-533 Ja '63.
(MIRA 16:2)

1. Stanislavskiy gosudarstvennyy pedagogicheskiy institut i Drogobychskiy gosudarstvennyy pedagogicheskiy institut im. Iv.Ya. Franka. Predstavleno akademikom S.L. Sobolevym.
(Inequalities (Mathematics) (Operators (Mathematics))

ROYTBERG, Ya.A.; SHEFTEL', Z.G.

General boundary value problems for elliptic equations with discontinuous coefficients. Dokl. AN SSSR 148 no.5:1034-1037 F '63. (MIRA 16:3)

1. Stanislavskiy gosudarstvennyy pedagogicheskiy institut i Drogobychskiy gosudarstvennyy pedagogicheskiy institut im. Iv.Ya. Franko. Predstavleno akademikom S.L.Sobolevym.
(Boundary value problems) (Differential equations)

SHEFTEL', Z.G.

Estimates in L_p spaces of solutions to elliptic equations with discontinuous coefficients satisfying general boundary conditions and conjugation condtions. Dokl.AN SSSR 149 no.1:48-51 Mr '63.
(MIRA 16:2)

1. Drogobychskiy pedagogicheskiy institut. Predstavleno akademikom S.L.Sobolevym.
(Differential equations) (Operators (Mathematics)

L 29158-66 EWT(d) IJP(c)

ACC NR: AP6018671 SOURCE CODE: UR/0199/65/006/003/0636/0668

24
23
B

AUTHOR: Sheftel', Z. G.

ORG: none

TITLE: Energy inequalities and common boundary value problems for elliptical equations with discontinuous coefficients

SOURCE: Sibirskiy matematicheskiy zhurnal, v. 6, no. 3, 1965, 636-668

TOPIC TAGS: boundary value problem, linear equation, linear operator, differential operator

ABSTRACT: This article contains the proofs and more elaborate presentation of results published earlier by the same author in DAN SSSR (Reports of the Academy of Sciences USSR), 149, No. 1, pp 48-51, 1963 and UMN (Progress in the Mathematical Sciences), XIX, No. 4, pp 230-232, 1964. In the given work the author proves the solvability of common boundary value problems, in the generalized and ordinary sense, for linear elliptical equations of arbitrary order 2m with discontinuous complex coefficients. The boundary and conjugate conditions are given by ordinary linear differential operators. The approach used in the investigation of these problems is based on the application of a priori evaluation

UDC: 517.946

Card 1/2

L 29158-66

ACC NR: AP6018671

(energy inequalities) of the type

$$\|u\|_{1,p} \leq K(\|Au\|_{1-2m,\ p} + \|u\|_{0,p}),$$

where A is the operator of the given problem, K is a constant which does not depend on u. The inequalities are proved in Chapter I for elliptical equations with discontinuous coefficients for an arbitrary p 1 and for Hölder norms; in Chapter II they are applied to the investigation of boundary value problems in W_p^I and $C^{1+\alpha}$. The author expresses deep thanks to Yu. F. Berezanskiy for raising the question, for valuable advice and for discussing the results. Orig. art. has: 78 formulas. [JPRS]

SUB CODE: 12 / SUBM DATE: 05Jun64 / ORIG REF: 029 / OTH REF: 010

Card 2/2 CC

BARSEGYAN, A.; MOCHARNYY, F.; SHEFTELEVICH, S.

New techniques in the haulage of containers. Avt.transp. 38 no.6:15-17 Je '60. (MIRA 14:4)
(Moscow—Truck trailers)

SHEFTELEVICH, S.S., inzh.; MOCHARNYY, F.A., inzh.

Efficient organization of transportation in containers. Zhel.dor. transp. 42 no.6:69-70 Je '60. (MIRA 13:7)
(Moscow--Railroads--Freight)

SHEFTER, Eduard Markovich; BRONIN, Ivan Nikolayevich, red.

[Lectures on theoretical mechanics] Lektsii po teoreticheskoi mekhanike. Moskva, Mosk. vechernii metallurg. in-t, Sec.3. 1963. 100 p. (MIRA 18:12)

AUTHOR: SHEFTER, G.M. 20-4-13/51

TITLE: Asymptotic Solution of the Equations of a Onedimensional, Instationary Motion of the Ideal Gas for a Cylindrical Symmetry (Asimptoticheskoye resheniye uravneniy odnomernogo neustanovivshegosya dvizheniya ideal'nogo gaza s tsilindricheskoy simmetriyey)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol. 116, Nr. 4, pp. 572-575 (USSR)

ABSTRACT: The usual system of partial differential equations describing the considered motion, is solved by the author with the aid of a method of characteristics of Sedov [Ref. 2] recently improved by Yakimov [Ref. 3]. The author obtains an asymptotic solution which contains two arbitrary functions and countably many constants. The appearing orders of magnitude: $1, \frac{1}{\sqrt{r}}, \frac{\ln r}{r}, \frac{1}{r}$. The obtained solution is used for the investigation of the damping of shock waves.

PRESENTED BY: L. I. Sedov, Academician, April 16, 1957
SUBMITTED: April 8, 1957
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AUTHORS: Ryzhov, O. S., Shefter, G. M.

TITLE: On Unsteady Flows of Gas in Laval Nozzles

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 3, pp 485-487 (USSR)

ABSTRACT: The wave equation of acoustics defines the unsteady motions at sonic velocity approximately which rapidly vary within the course of time. If the parameters, however, vary more slowly, the character of the motion largely remains unsteady, and the same nonlinear term is to be retained in the equation for the velocity potential as well as in the conventional theory of steady flows. This article presents an exact solution of this nonlinear equation. This solution is a generalization of the solutions for steady gas flows in the surroundings of the transition surface in Laval nozzles. The latter are herein assumed to possess two planes of symmetry. Under standard conditions, the authors obtained: $-(\varkappa+1)a_* \varphi_x \varphi_{xx} + a_*^2 \varphi_{yy} + a_*^2 \varphi_{zz} - 2a_* \varphi_{xt} = 0$; $a^2 = a_*^2 - (\varkappa-1)a_* \varphi_x$, where it holds: $\varphi(x,y,z,t) = \Phi(x,y,z,t) - a_* x$ ($\varphi \ll a_* x$). $\Phi(x,y,z,t)$ denotes

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the velocity potential; x,y,z the Cartesian space coordinates; t the time, a the local velocity of sound, $\varkappa$ the ratio of specific heats. The constant a_* equals the critical sonic velocity. Nondimensional variables are introduced for the solution of this equation, and the operation is briefly outlined. Finally, the following solution is obtained:

$$(\varkappa+1) + \varphi_x = (\varkappa+1)\, v_x/a_* = \lambda + A(x-\Delta) + h_1 r^2$$

$$\varphi_r = (\varkappa+1)\, v_r/a_* = 2h_1(x-\Delta)r + 4h_2 r^3$$

$$\varphi_\vartheta/r = (\varkappa+1)\, v_\vartheta/a_* = h_{1\vartheta}(x-\Delta)r + h_{2\vartheta} r^3$$

Other expressions are written down for the functions λ, h_1 and h_2. The above solution of the equation contains four arbitrary functions of time determining the variation in the size and shape of the nozzle. The authors shortly indicate the particularities of solutions for circular and plane Laval

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nozzles. They further investigate the surface of transition through the sonic velocity which is defined by the equation. $\varphi_x = 0$. Herefrom it results

$x = \Delta - \lambda/A - h_1 r^2/A$, which are surfaces of second order

shifted along the nozzle axis. The principal radii of curvature of these surfaces vary within the course of time. The surfaces are parabolic cylinders in plane nozzles, and paraboloids of revolution in round nozzles. This is exemplified by an investigation of the characteristic surfaces intersecting with the nozzle axis. In conclusion, the authors thank G. I. Taganov and S. A. Khristianovich for a discussion and valuable advice. There are 7 references, 4 of which are Soviet.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences, USSR)

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AUTHORS:	Ryzhov, O.S., Shefter, G.M.	SOV/20-130-2-9/69
TITLE:	Approximate Construction of a Class of Nonsteady Flows With a Velocity Close to the Velocity of Sound	
PERIODICAL:	Doklady Akademii nauk SSSR, 1960, Vol 130, Nr 2, pp 276-279 (USSR)	

ABSTRACT:

Approximate equations for the above-mentioned flows have been studied by many authors. C.C.Lin et al. (Ref 7) derived an equation for the velocity potential of nonsteady transsonic (transzvukovyy) flows for the case in which the flow parameters vary rapidly enough with time. The present paper gives an exact solution of this equation which describes the potential flows without shock waves. These potential flows contain local time-dependent supersonic zones. In this case, the shape of the nozzle is not given but has to be chosen in accordance with the solution obtained. In general, it is also time-dependent. The three-dimensional potential flows of a perfect gas satisfy the equations $\frac{\partial^2 \Phi}{\partial t^2} - a^2 \Delta \Phi + 2\,\mathrm{grad}\,\Phi\,\mathrm{grad}\frac{\partial \Phi}{\partial t} +$

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$$+\frac{1}{2}\,\operatorname{grad}\Phi\,\operatorname{grad}\,(\operatorname{grad}\Phi)^2=0,\quad \frac{\partial\Phi}{\partial t}+\frac{1}{2}\,(\operatorname{grad}\Phi)^2+\frac{a^2}{\varkappa-1}=\text{const.}$$

t = time, Δ = Laplace operator, Φ = velocity potential, a = local sonic velocity, $\varkappa$ = ratio of the specific heats. The authors studied the motion of the gas in the neighborhood of the critical cross section of a Laval nozzle with two planes of symmetry. The particle velocities in the flow were assumed to differ but little from the velocity of sound with respect to their amount, and the angle between the velocity vector and the axis of the nozzle was assumed to be small. After carrying out some transformations, the authors obtained the following equation in cylindrical coordinates:

$$-\frac{\partial\varphi}{\partial x}\,\frac{\partial^2\varphi}{\partial x^2}+\frac{\partial^2\varphi}{\partial r^2}+\frac{1}{r^2}\,\frac{\partial^2\varphi}{\partial\vartheta^2}-2\,\frac{\partial^2\varphi}{\partial x\partial\tau}+\frac{1}{r}\,\frac{\partial\varphi}{\partial r}=0,$$ where

$\frac{a_*}{\varkappa+1}\,\varphi(x,r,\vartheta,\tau)=\Phi(x,r,\vartheta,\tau)-a_*x\ (\tau=a_*x)$ holds. The constant a_* equals the critical sonic velocity. The course of calculation is given. Next, the relations $v_x=\frac{a_*}{\varkappa+1}\,\frac{\partial\varphi}{\partial x}$; $v_r=$ 4

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$= \frac{a_*}{\varkappa+1}\frac{\partial\varphi}{\partial r}$; $v_\theta = \frac{a_*}{\varkappa+1}\frac{1}{r}\frac{\partial\varphi}{\partial\theta}$ were found. A particular solution of the equation of motion is written down. The remaining solutions of this system may then be expressed by harmonics with the aid of the principle of superposition. The solution found describes the development of local supersonic zones occurring with increasing pressure difference at the inlet and outlet of the nozzle with time-dependent walls. These zones have to be chosen in accordance with the solutions obtained. The supersonic zone that first develops near the tunnel walls in the surroundings of the critical cross section becomes gradually larger. When the above-mentioned pressure difference is sufficiently high, the local supersonic zone touches the tunnel axis. Still more general solutions can easily be obtained. Because of the satisfactory agreement between theory and experiment it is possible to describe nonsteady processes in Laval nozzles by the above-described method. There are 12 references, 6 of which are Soviet.

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(Shock waves)